



# National Forests

## In CALIFORNIA

# Nature's Benefits WATER



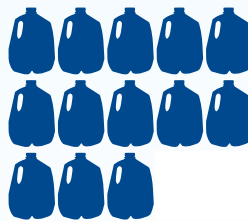
## WATER FROM CALIFORNIA NATIONAL FORESTS



### ≈ 60%

OF CALIFORNIA'S TOTAL WATER SUPPLY, OR ABOUT 41 MILLION ACRE/FEET ANNUALLY, COMES FROM NATIONAL FOREST LANDS<sup>1</sup>

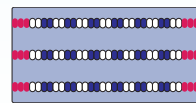
### EQUATING TO:



### 13+ TRILLION GALLONS OF WATER



### 9x THE VOLUME OF SHASTA LAKE



### ≈ 20 MILLION OLYMPIC-SIZED SWIMMING POOLS



### ENOUGH WATER FOR 99+ MILLION HOUSEHOLDS<sup>2</sup>



### 1,125 YEARS' WORTH OF DRINKING WATER FOR THE ENTIRE POPULATION OF CALIFORNIA

## HOW MUCH IS 13 TRILLION GALLONS OF WATER WORTH?



### \$4.5 BILLION ANNUAL VALUE USING WATER MARKET WHOLESALe PRICES BY SECTOR IN CALIFORNIA<sup>3</sup>



### \$389 BILLION COST OF WATER FOR LOS ANGELES HOUSEHOLDS USING 100 GALLONS/DAY (ON A MONTHLY WATER BILL OF \$100)<sup>4</sup>



### \$612 MILLION COST OF WATER TO SAN JOAQUIN FARMERS AT \$17/ACRE-FOOT<sup>5</sup>

### SOURCES

<sup>1</sup>[https://www.fs.usda.gov/research/publications/gtr/gtr\\_wo100/GTR-WO-100-Sup1.pdf](https://www.fs.usda.gov/research/publications/gtr/gtr_wo100/GTR-WO-100-Sup1.pdf)

<sup>2</sup>Assuming 340 gal/day - <https://lao.ca.gov/Publications/Report/3611#:~:text=Average%20Residential%20Water%20Use%20in,gallons%20per%20person%20per%20day>

<sup>3</sup>Brown 2007: [https://www.fs.usda.gov/rm/pubs\\_other/rmrs\\_2007\\_brown\\_t002.pdf](https://www.fs.usda.gov/rm/pubs_other/rmrs_2007_brown_t002.pdf)

<sup>4</sup><http://www.circleofblue.org/waterpricing/>, based on 4-person households

<sup>5</sup><http://www.sfchronicle.com/opinion/article/California-drought-Charge-true-cost-of-water-6319943.php>

### CREDITS

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Dollar sign water from <https://www.pexels.com/photo/close-up-of-splashing-water-247759/>  
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# Nature's Benefits

## WATER



(continued)

**75%**

OF CALIFORNIA'S PRECIPITATION (A COMPONENT OF CALIFORNIA'S NATIONAL FOREST WATER SUPPLY) FALLS NORTH OF SACRAMENTO<sup>6</sup>



**75%**

OF THE WATER DEMAND OCCURS SOUTH OF SACRAMENTO. THE STATE WATER PROJECT (SWP) AND THE CENTRAL VALLEY PROJECT (CVP) HELP MEET THIS DEMAND



**57%**

OF THE WATER THE LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP) PROVIDES<sup>7</sup>, COMES FROM THE LASSEN, PLUMAS, AND INYO NATIONAL FORESTS VIA THE STATE WATER PROJECT (SWP) AND THE L.A. AQUEDUCT. THIS WATER SUPPLIES

**4 MILLION**

RESIDENTS AND SUPPORTS MORE THAN

**1.8 MILLION**

JOBS

## WHERE DOES THE WATER FROM CALIFORNIA NATIONAL FORESTS GO AND WHO GAINS?

MOST CALIFORNIA WATER BEGINS AS PRECIPITATION OR SNOWPACK IN THE HIGHER ELEVATIONS AND IS THEN TRANSPORTED BY RIVERS, RESERVOIRS, AND INFRASTRUCTURE TO DOWNSTREAM USERS—CITIES, COMMUNITIES, AGRICULTURAL USERS, AND RECREATIONISTS.

THE CENTRAL VALLEY PROJECT PROVIDES WATER TO 1/3 OF CALIFORNIA'S<sup>8</sup> **\$50 BILLION** AGRICULTURE INDUSTRY



**83%**

OF THE WATER FROM THE PRIMARY CENTRAL VALLEY PROJECT (CVP) RESERVOIRS COMES FROM NATIONAL FORESTS<sup>9</sup>

**11.2**

MILLION PEOPLE RECREATE ON LAKE TAHOE, MAMMOTH LAKES, AND BIG BEAR LAKE—99% OF WATER FROM EACH LAKE COMES FROM NATIONAL FOREST LANDS<sup>10, 11, 12</sup>



RESTORING CALIFORNIA'S NATIONAL FORESTS TO A HEALTHY AND RESILIENT STATE IS CRITICAL TO PROTECTING OUR WATERSHEDS FOR FUTURE GENERATIONS.

OVER 115,000 JOBS IN THE AGRICULTURAL SECTOR ARE SUPPORTED BY CALIFORNIA'S NATIONAL FORESTS.<sup>13</sup>

### SOURCES

<sup>6</sup><http://www.cawaterchallenge.org/pages/overview>  
<sup>7,9,10</sup>Luce, 2016. <http://www.fs.fed.us/rmrs/projects/national-forest-contributions-streamflow>

<sup>8</sup><https://www.cdfr.ca.gov/statistics/pdfs/2016report.pdf>

<sup>9</sup>[https://www.usbr.gov/mp/2012\\_accomp\\_rpt/mpr\\_highlights.html](https://www.usbr.gov/mp/2012_accomp_rpt/mpr_highlights.html)

<sup>10,11,12</sup><http://www.southlaketahoe.com/lake-tahoe>; [http://ltva.org/wp-content/uploads/2016/11/161104-Lake-Tahoe-Visitors-Authority-2016\\_5.0.final\\_.pdf](http://ltva.org/wp-content/uploads/2016/11/161104-Lake-Tahoe-Visitors-Authority-2016_5.0.final_.pdf); <http://apps.fs.fed.us/nfs/nrm/nvm/results/R05.aspx/FY2011>; <http://www.visitmammoth.com/mammoth-lakes-facts>

<sup>13</sup><http://www.labormarketinfo.edd.ca.gov/data/ca-agriculture.html>

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# Nature's Benefits

## WATER



(continued)

### ADDITIONAL WATER BENEFITS FROM NATIONAL FORESTS

FORESTS PLAY AN IMPORTANT ROLE IN THE WATER CYCLE. AS WATER FLOWS FROM NATIONAL FORESTS TO THE OCEAN, MANY OTHER BENEFITS, IN ADDITION TO URBAN AND AGRICULTURAL USES, ARE PROVIDED ALONG THE WAY.

#### WATER QUALITY

Water infiltrates the forest floor, replenishing the ground water supply and eventually rejoining streams and rivers after being filtered by soils and roots. Forests also regulate the flow and temperature of water with tree cover. The shade helps keep water in snowpack, slowing the melt of water for later use in the summer. This helps maintain reservoir levels year-round and lessens the burdens on downstream levees. Tree shade in riparian areas also lowers stream temperatures, regulating habitat critical for invertebrates, amphibians, and fish.

**36,500**  
GALLONS



OF WATER IS THE AMOUNT ONE LARGE TREE CAN CAPTURE AND FILTER PER YEAR.<sup>15</sup>

#### RECREATION

**≈400,000**  
ACRES OF LAKES



**26**  
WILD AND SCENIC RIVERS INCLUDING 2,000 RIVER MILES, ALMOST TWICE AS LONG AS CALIFORNIA'S COASTLINE<sup>17</sup>



#### HABITAT

NATIONAL FORESTS IN CALIFORNIA'S STREAMS, RIVERS, AND WETLANDS HOST SEVERAL IMPORTANT WATER-BASED HABITATS FOR ANIMALS:



**18,775**  
SIERRA NEVADA MEADOWS & WETLANDS<sup>14</sup>

**≈57,000**  
MILES OF STREAMS



#### ENERGY

INSTALLED HYDROPOWER PLANT CAPACITY ON NATIONAL FORESTS CAN GENERATE

**10,190**  
MEGAWATTS



PER YEAR FOR HOMES AND COMMERCIAL BUSINESSES —MORE THAN ENOUGH TO MEET THE POWER NEEDS OF 7,642,500 MILLION HOUSEHOLDS<sup>16</sup>

#### SOURCES

<sup>14</sup><https://meadows.sf.ucdavis.edu/resources/326>

<sup>15</sup><https://www.princeton-treecare.com/tree-of-knowledge/10-astounding-facts-about-trees>

<sup>16</sup>CA Energy Commission 750 households /

MW; California Independent Service Operator (ISO) uses the ratio of 1 MW to power approximately 750 houses (Ernest Orlando Lawrence Berkeley National Laboratory)  
<sup>17</sup><https://www.rivers.gov/california.php>

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